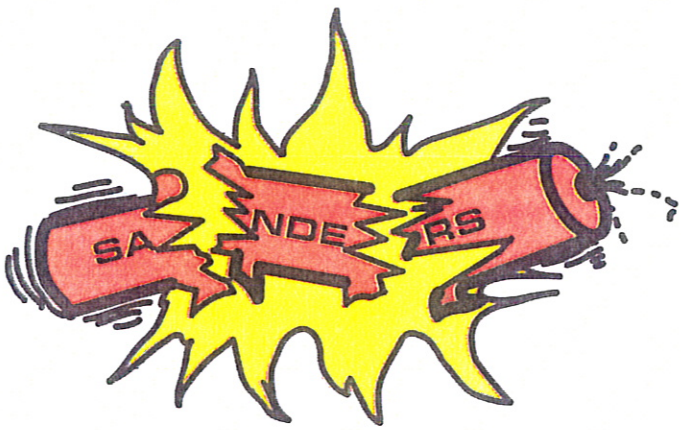
WESTERN STATES
DRILLING AND BLASTING, INC.

WORKPLACE SAFETY PROGRAM



Policy Statement

Western States Drilling & Blasting, Inc. (WSDB) is committed to providing safe and healthy working environments. Company management continually evaluates the workplace and operations, eliminates hazards, has developed training programs and safe operational procedures, and provides personal protective equipment to reduce the potential for employee exposure to hazardous conditions that cannot be completely eliminated.

Our Workplace Safety Program satisfies the requirements of Chapter 296-52 of The Washington Administrative Code. The program addresses our joint concerns for safety, the prevention of workplace accidents, and explains our individual responsibilities. It demonstrates our understanding that safety in the workplace requires an organized and ongoing management and employee team approach to be successful.

We are personally committed to the implementation and maintenance of the Workplace Safety Program and encourage all of our employees to participate, follow the procedures, and comply with the rules and to think safety and work safely.

Sincerely,

Daniel M. Sanders
President

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RESPONSIBILITIES AND ACCOUNTABILITY

The following are a list of job titles and the responsibilities associated with them:

SAFETY DIRECTOR

The Safety Director is responsible and shall be held accountable for the implementation and maintenance of this program in his assigned work area. He will:

1. Oversees the safety and health program activity and effectiveness to determine the need for additional programs or revisions.

2. Develops and executes safety policies and procedures.

3. Arranges the allocation of resources to support safety and health program activities.

4. Chairs the safety committee, review accident reports and ensures safety committee meeting minutes are maintained.

5. Ensures new hires are provided an opportunity to read the safety and health programs.

6. Secures and maintains employee safety training documentation and related records.

7. Coordinates safety and health inspection activity, conducts periodic inspection of construction sites and assists superintendents and foremen in correcting hazards which are identified during inspections or investigations.

SUPERINTENDENT

The Superintendent is responsible and shall be held accountable for the implementation and maintenance of this program in his assigned work area. He will:

1. Ensures foremen are providing new hires with job specific safety training.

2. Ensures safety and health training documents are forwarded to the Safety Director upon the employee's initial assignment to work.

3. Ensures that accidents which require investigation (as stipulated in Accident Investigation Procedures section) are conducted by the foremen and that reports generated are submitted to the Safety Director.

4. Assists in the elimination of hazards, which are identified as a result of safety inspections, accident investigations or employee complaints.

5. Conducts periodic safety meetings to maintain foremen and employees are up-to-date on relevant workplace safety matters.

6. Is receptive and open to employee concerns regarding safety and health in the workplace.

7. Disciplines foremen in accordance with the prescribed procedure when they violate safety rules.

FOREMAN

The Foreman is responsible and shall be held accountable for the implementation and maintenance of this program in his assigned work area. He will:

1. Encourages employees to follow safe work practices by setting a good example, and by being receptive to employee safety concerns.

2. Provides specific training and information to newly hired employees regarding safe work practices, personal protective equipment requirements and reporting procedures.

3. Ensures employee training is completed prior to initial work assignment, and that all training documents are submitted to the Safety Director, upon completion.

4. Conducts informal, daily inspections of assigned areas to ensure compliance with company safety rules, eliminate hazards, and to ensure employees are utilizing safe work practices and protective equipment.

5. Conducts accident investigations (as stipulated in Accident Investigation Procedures section) and submits reports to the Safety Director, immediately, upon completion.

6. Conducts periodic tailgate safety meetings and ensures materials, tools and any equipment defects are reported and corrected.

7. Disciplines employees in accordance with prescribed procedures when they violate safety rules.

DRILLER

The Driller is responsible and shall be held accountable for the implementation and maintenance of this program in his assigned work area. He will have:

1. Understanding of proper adjustment to feed pressure

2. Understanding of proper operation of down hole, hydraulic, and air-hammer

3. Understanding of proper rotation speed for various materials, bits, and hammers

4. Understanding of the ability to make speed and pull force adjustments
5. Understanding of adjustments to drill steel angle
6. Understanding of proper air pressures
7. Understanding of proper hydraulic pressure
8. Understanding of how to add additional drill rod
9. Understanding of auxiliary equipment operation, maintenance and cleaning.
10. Drilling techniques
11. Equipment operation, maintenance (minor), cleaning

The Driller also has responsibility over and training in how to address the following items:

1. Visually inspects equipment and reports faults and makes equipment available for routine operational servicing
2. Completes Drill Log (See Appendix A)
3. Identify defective holes caused by unusual drilling conditions such as loss of circulation air, change of material, voids, or detectable seams. Driller will record such conditions on the drill log.
    a. Loss of circulation air can be identified when cuttings stop blowing out of the top of the hole.
    b. Change of material can be identified by changes in color, texture, type of material, or hardness.
    c. Voids can be identified by a loss of circulation air or a sudden fall of the drill bit into the void while drilling.
    d. Detectable seams can be identified when a loss of circulation air occurs or a sudden fall of the drill bit into the void while drilling.
    e. Marks defective drill holes (where applicable) on drill log and circle hole with paint
        I. Drill log will be turned in to superintendent.

BLASTER

The Blaster in Charge is responsible and shall be held accountable for the implementation and maintenance of this program in their assigned work area. The Blaster in Charge will comply with all requirements indicated in Chapter 296-52 of the Washington Administrative Code. They will:

1. Have complete control of all blasting operations and ensure that all persons and equipment are in the clear before firing the blast. Should there be questions regarding blasting safety, they will confer with their immediate supervisor.

2. Ensure that all employees under their control follow safe work practices by setting a good example, and by being receptive to other employee safety concerns.

3. Will be responsible to ensure that all personnel working with explosives material are trained in the storage, transportation, handling and use of explosives and that they have been trained in personal protective equipment requirements and reporting procedures.

4. Ensure that all employee training is completed properly and that all training documents are submitted to the blasting manager.

5. Be able to safely perform the type of blasting to be used as stipulated in W.A.C 296-52-64020

6. Conduct daily inspection activities of their assigned work area, to ensure compliance with safety rules, to eliminate hazards and to ensure employees are utilizing safe work practices and personal protective equipment, and be able to recognize hazardous conditions as stipulated in W.A.C 296-52-64020

7. Conduct accident/incident investigation (as stipulated in the Accident Investigation Procedures section) in conjunction with the Superintendent, Foreman and Safety Director.

8. Conduct weekly safety meetings and ensure materials, tools and any equipment defects are reported and corrected.

9. Will make recommendations to management for disciplinary action of employees in accordance with the prescribed procedures when they violate safety rules.

10. Will be in good physical condition as stipulated in W.A.C 296-52-64020

11. Will not use illegal drugs (including narcotics and intoxicants) as stipulated in W.A.C. 296-52-64020

12. Will have a working knowledge of state and local explosives laws and regulations as stipulated in W.A.C 296-52-64020

13. Will have adequate blaster training, experience and knowledge as stipulated in W.A.C 296-52-64020

14. Will have the ability to understand and give written and oral instructions as stipulated in W.A.C 296-52-64020

ALL OTHER EMPLOYEES

All other employees are responsible and shall be held accountable for the implementation and maintenance of this program. They will:

1. Follow company safety rules and reporting procedures.

2. Report all accidents and injuries to their foreman or superintendent and complete the necessary forms.

3. Communicate concerns for job safety to their foreman, superintendent, or safety committee representative.

4. Utilize provided personal protective equipment.

5. Attend scheduled safety meetings.

6. Cooperate during accident investigations, area safety inspections and training to minimize the risk of work related injuries and illnesses.

7. Conduct daily inspections of their work areas and report unsafe conditions or equipment to their foreman or superintendent.

ACCIDENTS AND INJURIES

EMPLOYEE REPORTING OF ON-THE-JOB INJURIES

Employees must report every on the job injury immediately, regardless of how minor it may seem. This includes bumps, cuts, scratches, or sprains, etc. All reported injuries require the employee complete an injury report. The physician or medical facility will require the employee to complete their portion of the injury report.

ACCIDENT INVESTIGATION PROCEDURES

When accidents involving employee injuries are reported, the immediate concern is providing appropriate first-aid and medical attention.

When accidents/incidents involving employee injury, property damage, or damage to personal property used in connection with company activities occur, they will be reported immediately to the Superintendent, Foreman and the Director of Safety (or his representative) as soon as possible, regardless of the hour.

The accident area must be secured to prevent any further employee exposure. The area will remain secured until such time as the accident investigation is complete and any hazardous condition present at the time of the occurrence is eliminated.

All accidents involving employee injuries will be investigated by the injured employee's immediate supervisor. The foreman will ensure that the employee has taken the appropriate first-aid measures when the injury is minor. The foreman will ensure the employee completes a SIIS C-I Form, and submits it to the Safety Director.

Accidents involving employee injuries that require immediate medical attention (more than simple first-aid) must be immediately reported to the Safety Director. The following procedures will be strictly adhered to:

1. The superintendent will seek immediate medical attention for the victim.

2. The foreman or superintendent will immediately secure the accident area to ensure that other employees are not exposed to hazards related or responsible for the injury.

3. The foreman or superintendent will investigate the accident and complete an Accident Investigation Form.

4. The Safety Director will assist the foreman or superintendent in correcting hazards that contributed to the employee injury.

5. The superintendent will ensure that the completed Accident Investigation Form and a copy of the SITS C-I Form are promptly submitted to the Safety Director.

The primary purpose of the accident investigation is to identify hazardous conditions, what inappropriate or unsafe practices occurred, and to determine what preventative measures could be taken to eliminate or reduce the potential for future injuries similar to the one under investigation.

When an employee requires/receives medical attention as a result of a workplace injury, an Injury Report Form must be completed by the Safety Director. Information obtained during the accident investigation (Accident Investigation Form), is essential to the preparation and initiation of a workman's compensation claim.

The Safety Director will prepare a summary report for quarterly presentation during safety committee meetings. Safety committee members will review this information and assist in recommending suitable corrective measures for which have not been previously or adequately addressed.

RECORDING AND REPORTING ACCIDENTS

The Safety Director will maintain logs and report accidents and injuries. This includes OSHA Form 300 (Log of Work-Related Injuries and Illnesses), OSI-IA Form 301 (Injury and Illness Incident Report) and OSHA Form 300A (Summary of Work-Related Injuries and Illnesses). Work-related injuries and illnesses shall be recorded if they result in one of the following: death; one or more days away from work; restricted work or transfer to another job; medical treatment beyond first aid; loss of consciousness; or diagnosis of a significant injury/illness by a physician or other licensed healthcare professional. First aid treatment is limited to the following procedures and all other procedures qualify as medical treatment beyond first aid and require recording.

1. Using a non-prescription medication at nonprescription strength (for medications available in both prescription and non-prescription form, a recommendation by a physician or other licensed health care professional to use a non-prescription medication at prescription strength is considered medical treatment for recordkeeping purposes);

2. Administering tetanus immunizations (other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment);

3. Cleaning, flushing or soaking wounds on the surface of the skin

4. Using wound coverings such as bandages, Band-Aids™, gauze pads, etc.; or using butterfly bandages or Steri-Strips™ (other wound closing devices such as sutures, staples, etc., are considered medical treatment);

5. Using hot or cold therapy;

6. Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes);

7. Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.).

8. Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister;

9. Using eye patches;

10. Removing foreign bodies from the eye using only irrigation or a cotton swab;

11. Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means;

12. Using finger guards;

13. Using massages (physical therapy or chiropractic treatment are considered medical treatment for recordkeeping purposes); or

14. Drinking fluids for relief of heat stress.

The Safety Director will complete OSHA Form 300 (Log of Work-Related Injuries and Illnesses), 051-IA Form 301 (Injury and Illness Incident Report) within seven days of receiving information that a recordable illness or injury has occurred.

The Safety Director will post a copy of OSHA Form 300A (Summary of Work-Related Injuries and Illnesses) in a conspicuous place or places where notices to employees are customarily posted. The summary will be posted no later than February 1 of the year following the year covered by the records and the posting will be kept in place until April 30. The OSHA 300 Log, the OSHA 300A annual summary, and the OSHA 301 Incident Report forms will be maintained for five (5) years following the end of the calendar year that these records cover.

HAZARD IDENTIFICATION AND CONTROL

Superintendents, *foremen* and *other employees* will conduct daily, informal inspection activity to ensure that recognized hazards are reported and eliminated. Hazard work order procedures have been developed to facilitate the correction of identified hazards. This procedure prioritizes maintenance activity request for the correction of unsafe conditions. When submitted properly, this procedure will expeditiously eliminate hazards. Hazards that we are unable to immediately correct require the completion and submission of a Hazard Work Order form. Copies of the form are submitted to the Safety Director.

The *Safety Director* will conduct periodic, unscheduled and randomly selected safety inspections to maintain appropriate safety and health program oversight.

When unsafe conditions or practices are identified, the process or task will be discontinued until corrective measures have been taken or interim measures can be employed to prevent employee exposure.

Employees are encouraged to report unsafe conditions or work practices to their foreman or superintendent immediately. and WSDB will not retaliate against any employee for reporting hazards or potential hazards or for making suggestions related to safety in the workplace.

GENERAL SAFETY RULES

The following safety rules have been developed to ensure that common workplace hazards are eliminated. Management and employees alike are expected to comply with these rules and will be disciplined accordingly for failure to do so.

1. Report unsafe conditions/operations to the foreman or superintendent immediately.

2. Compressed air shall not be directed toward any person or utilized to blow dust and dirt from clothing.

3. All work areas, common areas and storage areas are to be kept clean and orderly.

4. Submit to drug/alcohol testing in accordance with and as required by our drug/alcohol policy.

5. An anti-whip device must securely fasten all pneumatic hose connections. Bleed any air hoses prior to attempting to disconnect them.

6. Personal protective equipment must be utilized when the potential for hazards are presented by the work being performed or the work environment (Hard hat, safety glasses, steel toed boots, etc.).

7. Damaged flexible extension cords will not be used. (Grounding pins broken, strain relief pulled, damaged insulation, spliced.)

8. Use proper lifting techniques when lifting any heavy object (maintain back straight and erect, position object lifted directly in front and in close proximity to your body, ensure firm grasp and utilize legs to perform the lift).

9. No hand-held pneumatic or other power tool shall be used without its guard in place and functioning properly.

10. Employees must familiarize themselves with this Workplace Safety Program, the Hazard Communication Program, OSHA 29 CFR §~ 1926.900-914 Blasting and Use of Explosives standards, injury/incident reporting procedures and comply with all established safety procedures.

SAFETY COMMITTEE

WSDB has established a safety committee that is composed of both salaried management members and hourly employee representatives; one of the three being a union steward and one employee alternate. The purpose of this committee is to provide on-going oversight of our safety and health programs.

The Safety Director will chair the committee and ensure safety committee meeting minutes are maintained.

Management members have been appointed to serve for the duration of their employment.

EMPLOYEE REPRESENTATIVES

To be nominated, employees must have obtained permanent, full-time status with the company, having remained in full time employment status for a minimum period of one year. Permanent full-time employees having met the above criteria will be referred by management to the employee population for election to the committee. Employees receiving the majority of employee votes will be appointed.

Safety committee functions consist of the following duties:

1. Be receptive and open to employee safety concerns. Ensure employee concerns are addressed by the foreman or superintendent responsible for the work area involved.

2. Hold quarterly meetings.

3. Maintain minutes of the meeting. Records must be maintained for at least 3 years.

4. Discuss and report the unfinished business of the previous meeting, if any.

5. Review quarterly summary of-accidents and injuries, and safety inspection reports to ensure hazards have been addressed.

6. Participate in periodic safety inspections in their assigned work areas.

7. Assist by recommending hazard elimination or reduction measures when hazards are discovered in their work areas.

8. Assist in distribution and/or dissemination of safety information to employees.

9. Discuss new ideas for improving the overall effectiveness of the safety program. Review the company safety and health programs annually. Make suggestions concerning revision, and update.

Note: All safety committee members will be instructed on all aspects of the committee function.

EMPLOYEE TRAINING

All current employees will be afforded an opportunity to read, review and discuss this written Workplace Safety Program.

1. Foremen/superintendents will ensure that copies are made available for employee review.

2. Employees will sign a training document to verify that they have read and understand the procedures and rules.

All new hires will receive safety orientation training from the Safety Director (job specific safety training will be conducted by their immediate supervisor). This training will include the following:

1. An opportunity to read, review and discuss the "Rights and Responsibilities" pamphlet.

2. An opportunity to read, review and discuss the written Safety and Health Programs.

3. Job specific training on safe working conditions and safe work practices unique to their assignments and work areas. Training may include drilling and blasting procedures, use of hazardous chemicals and explosives, use and limitations of personal protective equipment, evacuation procedures, and fire prevention, among others (Employees who work on mine sites will receive training as prescribed by MSHA.)

Superintendents, foremen and Safety Committee members will receive training to enable them to fulfill the functions which have been delegated to them by this program.

Refresher safety training will be provided annually and will include review of the written Safety and Health Programs.

Superintendents/Foremen will conduct periodic safety meetings in their work areas to update safety information and provide a forum for discussion of relevant safety matters.

When new processes and operations are introduced, employees will receive specific safety training relating to the new work assignments.

All safety training must be documented, copies forwarded to the Safety Director, and maintained for a period of 3 years.

BLASTER TRAINING

WSDB management personnel, experienced in blasting, will give the initial training. Currently WSDB has a blasters training meeting every quarter.

This program will be expanded to include the entire blast crew members on a quarterly basis. Training is also available from blasting consultants and will be scheduled in addition to regularly scheduled training by WSDB.

Newly hired blast crew members receive job orientation and training before they are allowed to go out on the job. Once the employee is on the job, they receive training by the blaster in charge. No new blast crew employee is assigned to load holes or to tie in a shot until the blaster in charge is confident the employee is trained and capable of doing so.

All training will be documented using the company-training log (See Appendix C) and records will be maintained at the corporate office.

DRILLER TRAINING

WSDB management personnel, experienced in drilling, will give the initial training.

Driller training will occur at regular intervals, not less than semi-annually.

Newly hired drillers will receive job orientation and training before they are allowed to go out on the job.

Once the employee is on the job, they receive training by the drill manager. All training will be documented using the company-training log (See Appendix C) and records will be maintained at the corporate office.

PRE-DRILL

1. Use appropriate personal protective equipment.
2. Inspects and assesses site conditions.
3. Conducts equipment pre-operational inspection.
4. Identifies, manages and reports hazards and potential risks according to work plan.
5. Uses approved dust suppressant.
6. Maintains personal safety and surrounding personnel.
7. Operates equipment safely within working environment limitations and face/ground conditions.
8. Interprets drill plans then drills holes and realigns equipment according to drill design.

9. Monitors site conditions and adjusts drilling techniques and components to maintain drilling operations.

10. Maintain drill log (See Appendix A)

DRILLING PROCEDURES

All drill holes need to be loadable. This means all holes need to be:

1. Drilled vertically, if a hole is not completely vertical (straight up and down) there could be a chance of intersecting with another hole. This is more common with deeper cuts and tighter patterns. If holes intersect than this could result in two holes firing at the same time, which creates timing problems, leading to vibration and air blast issues.

2. The Pattern is also a crucial part of drilling. When a pattern is laid out it needs to at a 90-degree angle. If the pattern is not squared it will affect the blaster in that they cannot time it properly. If you notice the pattern is not correct let your supervisor know and do not drill it until it is properly laid out.

3. Bit size is to be established before drilling commences. Bit size will be decided by the blaster in charge.

4. Collaring is the key to a loadable hole. Time needs to be taken when starting a hole; it is imperative that the top of the hole, also called the collar, be properly done. If this is done incorrectly the hole will collapse and it will be unloadable. If you need help in collaring ask your supervisor or the drill manager.

5. After the driller has collared the hole he must be aware of how the ground drills by doing the following:

    a. Watch the cuttings coming out of the hole. The conditions underground are hard to know so it is important to watch what comes out of the hole.

    b. If the driller notices that the cuttings are not coming out of the hole and the steel is traveling down at a faster rate than normal this would indicate that there is a void under the surface. If a void is encountered the driller must make a note on the drill log, then mark that hole by circling it with paint.

    c. When a void or seam is discovered under the surface, air and dust will come out of the holes near the one that is presently being drilled. When this happens, the driller must mark all of the holes that dust was coming out of and let the supervisor know immediately.

6. If the drill runs out of water, the driller must discontinue drilling

7. The driller must try not to create dust when drilling or tramming. If the area he needs to tram on is dusty, the superintendent must be contacted, and the area must be watered.

8. All holes must be drilled to the predetermined depth.

    a. All hole depths are to be determined by the job superintendent, not the driller

9. A drill log must be completed daily and turned in with the daily time card.

10. Tools required for the job may include:

a. Crescent Wrench
b. Pipe Wrench
c. 100' tape and 30' tape
d. Knife
e. Hammer
f. Standard Screwdriver

USE OF EXPLOSIVES
GENERAL PROVISIONS

1. The employer shall permit only authorized and qualified persons to handle and use explosives as stipulated in W.A.C. 296-52-67045

2. Smoking, firearms, matches, open flame lamps, and other fires, flame or heat producing devices and sparks shall be prohibited in or near explosive magazines or while explosives are being handled, transported or used as stipulated in part 3 W.A.C. 296-52-69055

3. No person shall be allowed to handle or use explosives while under the influence of intoxicating liquors, narcotics, or other dangerous drugs as stipulated in part 2 of W.A.C. 296-52-64020

4. All explosives shall be accounted for at all times. Explosives not being used shall be kept in a locked magazine, unavailable to persons not authorized to handle them. The employer shall maintain an inventory and use record of all explosives. Appropriate authorities shall be notified of any loss, theft, or unauthorized entry into a magazine as stipulated in part 2 of W.A.C. 296-52-69050

5. No explosives or blasting agents shall be abandoned.

6. No fire shall be fought where the fire is in imminent danger of contact with explosives. All employees shall be removed to a safe area and the fire area guarded against intruders.

7. Original containers shall be used for taking detonators and other explosives from storage magazines to the blasting area.

8. When blasting is done in congested areas or in proximity to a structure, railway, or highway, or any other installation that may be damaged, the blaster shall take special precautions in loading, delaying, initiation, and confinement of each blast to control the throw of fragments thus preventing bodily injury to employees or others.

9. Employees authorized to prepare explosive charges or conduct blasting operations shall use every reasonable precaution including, but not limited to, visual and audible warning signals, flags and barricades.

10. Empty boxes, paper and fiber packing materials, which have previously contained high explosives, shall not be used again for any purpose, but shall be disposed of at an approved location.

11. Explosives, blasting agents, and blasting supplies that have obviously deteriorated or been in some way damaged shall not be used.

12. Delivery and issue of explosives shall only be made by and to authorized persons. Said explosives shall only be stored in authorized magazines or approved temporary storage or handling areas.

13. Blasting operations in the proximity of overhead, power lines, communication lines, utility services, or other services and structures shall not be carried on until the operators and/or owners have been notified and measures for safe control have been taken as stipulated in part vii letter C of W.A.C. 296-52-67090.

LOADING OF EXPLOSIVES OR BLASTING AGENTS

1. Procedures that permit safe and efficient loading shall be established before loading is started.

2. All drill holes shall be sufficiently large to admit freely the insertion of the cartridges of explosives as stipulated in part 3 Letter C of W.A.C. 296-52-67080.

3. Tamping shall be done only with wood rods. The primer shall never be tamped as stipulated in part 4 of W.A.C. 296-52-67085.

4. No holes shall be loaded except those to be fired in the next round of blasting as stipulated in part 3 of W.A.C. 296-52-67085.

5. Drilling shall not be started until all remaining butts of old holes are examined for unexploded charges as stipulated in part 1 letter A item ii of W.A.C. 296-52-67080.

6. No person shall be allowed to deepen drill holes which have contained explosives or blasting agents as stipulated in part 3 Letter B of W.A.C. 296-52-67080.

7. No explosives or blasting agents shall be left unattended at the blast site as stipulated in part 7 of W.A.C. 296-52-67085.

8. Machines and all tools not used for loading explosives into bore holes shall be removed from the immediate location of holes before explosives are delivered.

9. Equipment shall not be operated within 50 feet of loaded holes as stipulated in part 2 Letter B of W.A.C. 296-52-67080.

10. No activity of any nature other than that which is required for loading with explosives shall be permitted in a blast area.

11. All blast holes in open work area shall be stemmed with inert material to the collar or to a point which will confine the charge as stipulated in part 6 of W.A.C. 296-52-67085.

12. Warning signs, indicating a blast area, shall be maintained at all approaches to the blast area as stipulated in of W.A.C. 296-52-60760.

13. No loaded holes shall be left unattended or unprotected as stipulated in part 7 of W.A.C. 296-52-67085.

14. The blaster shall keep an accurate, up-to-date record of explosives, blasting agents, and blasting supplies used in a blast and shall keep an accurate running inventory of all explosives and blasting agents stored on the operation. Unused explosives will be returned to the magazine or day box after use as stipulated in part 8 of W.A.C. 296-52-67085.

USE OF DETONATING CORD

1. No detonating cord will be allowed in close proximity to residential areas or occupied structure.

2. Care shall be taken to select a detonating cord consistent with the type and physical condition of the bore hole and stemming and the type of explosives used as stipulated in part 1 of W.A.C. 296-52-67100.

3. Detonating cord shall be handled and used with the same respect and care given other explosives as stipulated in part 2 of W.A.C. 296-52-67100.

4. The line of detonating cord extending out of a bore hole or from a charge shall be cut from the supply spool before loading the remainder of the bore hole or placing additional charges.

5. Detonating cord connections shall be competent and positive in accordance with approved and recommended methods. Knot-type or other cord-to-cord connections shall be made only with detonating cord in which the explosive core is dry as stipulated in part 5 Letter B of W.A.C. 296-52-67100.

6. All detonating cord trunklines and branchlines shall be free of loops, sharp kinks, or angles that direct the cord back toward the oncoming line of detonation as stipulated in part 4 of W.A.C. 296-52-67100.

7. All detonating cord connections shall be inspected before firing the blast as stipulated in part 5 Letter A item iii of W.A.C. 296-52-67100.

8. When detonating cord millisecond delay connectors or short-interval-delay electric blasting caps are used with detonating cord, the practice shall conform strictly to the manufacturer's recommendations as stipulated in part 5 Letter C item ii of W.A.C. 296-52-67100.

9. When connecting a blasting cap or an electric blasting cap to detonating cord, the cap shall be taped or otherwise attached securely along the side or the end of the detonating cord, with the end of the cap containing the explosive charge pointed in the direction in which the detonation is to proceed as stipulated in part 5 Letter C item i of W.A.C. 296-52-67100.

10. Detonators for firing the trunkline shall not be brought to the loading area nor attached to the detonating cord until everything else is in readiness for the blast.

FIRING THE BLAST

1. Area will be cleared of all surplus explosives, vehicles, personnel and equipment before pre-blast signals are initiated as stipulated in part 1 of W.A.C. 296-52-67105.

2. Before a blast is fired pre-blast signals will be fired (see Table U1).

3. Flagmen shall stop traffic during blasting operations as stipulated in part 4 of W.A.C. 296-52-67105.

TABLE U-I

WARNING SIGNAL	This signal will be given 5 minutes prior to the blast. It will consist of a series of long signals.
BLAST WARNING SIGNAL	This signal will be given 1 minute prior to the blast. It will consist of 5 short signals.
POST BLAST "ALL-CLEAR" SIGNAL	Following the blast (5-minute mandatory wait time), the licensed blaster will be responsible to inspect the blasting site to determine if any misfires, damage or other problems exist (i.e., loose high walls, unstable slopes, roadway damage, etc.). If a misfire is discovered, the licensed blaster will withdraw from the blasting site and wait at least 30-minutes before further investigation. Then the misfire procedures herein will be followed. When the blast-site inspection has been completed, and all issues have been safely resolved, the licensed blaster will then give the "all-clear" signal, which will consist of a single, prolonged, audible signal; after which traffic can be released.

POST-BLAST INSPECTION

Sufficient time shall be allowed for the dust and fumes to leave the blasted area before returning to the shot. An inspection of the area and the surrounding rubble shall be made by the blaster to determine if all charges have been exploded and an all clear signal shall be sounded before employees are allowed to return to the operation as stipulated in W.A.C. 296-52-67110.

MISFIRES

It is possible that a misfire could be discovered during three separate phases of the operation:

1. A misfire that is obvious during the detonation of the blast.

2. A misfire that is discovered during a post-blast inspection of the blasting site, or after the "all-clear" signal is given and

3. A misfired hole or undetonated explosive is discovered during some subsequent operation following the blast and the "all-clear" signal.

To assist in the discovery of misfires and to assure that they are properly cleared without undue hazards to persons or property, the following procedures will be followed by project personnel involved in the blasting operation:

OBVIOUS MISFIRE DURING BLAST

During the detonation of each blast, the blaster will carefully evaluate the blast detonation timing. If the blaster suspects that a misfire has occurred, he will immediately notify project management who will notify the project engineer and the Highway patrol (or traffic authority) of the likelihood of a misfire and the following steps will be taken:

1. The "all-clear" signal will not be given.
2. Traffic will not be released.
3. The blast site will remain guarded.
4. Following a mandatory 30 minute waiting period following the blast, the blaster and only those personnel necessary to the task will approach and investigate the suspected misfire.

MISFIRE DISCOVERED

If a misfire is discovered during a post-blast inspection; the licensed blaster will immediately notify project management and the project engineer and coordinate with them the steps he will be taking to properly clear the misfire. If the blaster determines that the area of potential hazard has increased beyond that of the original blast, the blast area will be cleared to new limits. The blaster will not proceed to clear the misfire until the area has been secured. He will then take the

necessary steps to safely clear the misfire. While this is being accomplished, the blast site will remain guarded.

Following successful clearing of the misfire and a subsequent inspection of the blast site by the blaster, he will give the order to sound the "all-clear" signal, after which traffic can be released.

IF NO MISFIRE IS FOUND

The licensed blaster will notify project management and will give the order to sound the "all-clear" signal; after which traffic can be released.

MISFIRE DISCOVERED DURING POST BLAST INSPECTION

After a minimum mandatory wait of 5 minutes after the blast, the blaster will conduct a thorough inspection of the blast site to e certain that no misfire exists.

MISFIRE DISCOVERED

If a misfire is discovered during a post-blast inspection; the licensed blaster will immediately notify project management and the project engineer and coordinate with them the steps he will be taking to properly clear the misfire. The "all-clear" signal will not be given, traffic will not be released and the blast site will continue to remain guarded. Following a minimum mandatory 30-minute wait after the blast, the blaster and only those personnel necessary to the task will approach and investigate the misfire.

If the blaster determines that the area of potential hazard has increased beyond that of the original blast, the blast area will be cleared to new limits. The blaster will not proceed to clear the misfire until the area has been secured. He will then take the necessary steps to safely clear the misfire. While this is being accomplished, the blast site will remain guarded. Following successful clearing of the misfire and a subsequent inspection of the blast site by the blaster, he will give the order to sound the "all-clear" signal, after which traffic can be released.

Following successful clearing of the misfire and a subsequent inspection of the blast site by the blaster, he will give the order to sound the "all-clear" signal, after which traffic can be released.

IF NO MISFIRE IS FOUND

The licensed blaster will notify project management and will give the order to sound the "all-clear" signal; after which traffic can be released.

MISFIRE DISCOVERED IN SUBSEQUENT OPERATION

In the event that an unexploded charge is discovered during some subsequent operation following blasting (i.e. excavating, loading, hauling, etc.), the following steps will be taken:

1. The person discovering the undetonated charge will immediately notify the licensed blaster, project management and the project engineer, and take steps to guard the charge.

2. Excavating, loading, hauling and other activities in the immediate vicinity of the blast zone will be suspended.

3. Excavating, loading, hauling and other activities in the immediate vicinity of the blast zone will be suspended.

4. The licensed blaster will proceed to the area and will evaluate the problem and determine the likelihood of additional explosive charges being involved. After this inspection, safe remediation procedures will be developed.

5. If the inspection reveals that one or more individual cartridges of explosive require removal from the site, the explosives will be returned to storage or destroyed.

6. If the inspection reveals that explosives will have to be fired in place or removed from the drill hole, the licensed blaster will advise project management and the project engineer of the steps necessary to properly clear the misfire.

7. The licensed blaster will determine the area surrounding the misfire that needs to be cleared and secured for safety. Steps will be taken to properly secure the area, including notification of the Highway Patrol (or traffic authority).

8. The blaster will then proceed to clear the misfire, If clearing the misfire involves detonating the explosives, all provisions of this AELASP and of the Explosive Safety Orders pertaining to the firing of blasts will be followed.

9. Following successful clearing of the misfire and a subsequent inspection of the blast site by the blaster, he will give the order to sound the "all-clear" signal after which traffic can be released.

DISPOSAL OF EXPLOSIVES

The blaster in charge is ultimately responsible for the explosives from the time they are picked up from the magazine until they are returned. He must take the time to account for the explosives as they are being used.

The blaster in charge shall limit the number of workers involved in laying out the explosives. The blaster in charge shall maintain order during the process of removing explosives from the truck and returning them after the shot is laid out.

Explosives packages and boxes shall be broken down as they are emptied! Quick but effective examination shall be made before any empty explosives package is discarded. Never assume that a package is empty until the following procedure is performed:

Note: Gloves must be worn when handling empty explosives or blasting agent packages.

ANFO

1. Immediately after the product is used, hold bag upside down and quickly shake.

2. Place nine (9) bags together, as they are being used, then neatly fold and stuff' them into a tenth empty bag. Each bundle shall account for ten (10) bags.

DIVISION 1.1 – HIGH EXPLOSIVES (STICK POWDER, BOOSTERS, ETC.)

1. After using all product in the fiberboard case, quickly but thoroughly examine the case for stick powder, boosters, etc. Take out any plastic liners or similar materials and examine them as well.

2. Break the fiberboard case down by pulling the glued areas apart at the Juncture points. Perform this step on both the top and bottom of each fiberboard case.

3. Neatly stack the flattened boxes for transportation and disposal.

DETONATORS

1. After using all product in the fiberboard case, quickly but thoroughly examine the case for any remaining detonators. Take out any plastic or foil liners and examine them for remaining product. Interior cartons must be opened and thoroughly examined as well.

2. Break the fiberboard case down by pulling the glued areas apart at the juncture points. Perform this step on the top, bottom and interior cartons of each fiberboard case.

3. Neatly stack the flattened boxes for transportation and disposal.

METHODS OF DISPOSAL

All blasting procedures will be done locally so that all packages can be transported to the landfill, per special arrangement and approval.

Special provisions for actual disposal of packages accumulated on out-of-town job sites shall be reviewed with the company safety director. This review shall be conducted on a per Job basis and any approval for variance must be in writing from the safety director or a company officer.

TRANSPORTATION OF EXPLOSIVES

GENERAL PROVISIONS

1. Transportation of explosives shall meet the provisions of Department of Transportation regulations contained in 46 CFR Parts 146-149, Water Carriers; 49 CFR Parts 171-179, Highways and Railways; 49 CFR Part 195, Pipelines; and 49 CFR Parts 390-397, Motor Carriers.

2. Motor vehicles or conveyances transporting explosives shall only be driven by, and be in the charge of, a licensed driver who is physically fit. He shall be familiar with the local, State, and Federal regulation governing the transportation of explosives as stipulated in W.A.C. 296-52-68060

3. No person shall smoke, or carry matches or any other flame-producing device, nor shall firearms or loaded cartridges be carried while in or near a motor vehicle or conveyance transporting explosives as stipulated in item 1 of W.A.C. 296-52-68020.

4. Explosives, blasting agents, and blasting supplies shall not be transported with other materials or cargoes. Blasting caps shall not be transported in the same cargo area with other explosives as stipulated in part 1 of W.A.C. 296-52-68065.

5. Vehicles used for transporting explosives will have adequate GVW and shall be in good mechanical condition as stipulated in W.A.C. 296-52-68040.

6. Every motor vehicle or conveyance used for transporting explosives shall be marked or placarded on all sides, the front, the sides, and the rear as stipulated in W.A.C. 296-52-68050.

7. Each vehicle used for transportation of explosives shall be equipped with a fully charged fire extinguisher, in good condition. An Underwriters Laboratory-approved fire extinguisher of not less than 10-ABC rating will meet the minimum requirement. The driver shall be trained in the use of the extinguisher on his vehicle as stipulated in W.A.C. 296-52-68055.

8. Motor vehicles or conveyances carrying explosives, blasting agents, or blasting supplies, shall not be taken inside a garage or shop for repairs or servicing.

9. No motor vehicle transporting explosives shall be left unattended as stipulated in part 4 W.A.C. 296-52-68060.

CHECKLIST AND WARNINGS

The following certificates, licenses, papers and equipment must be in each commercial vehicle or any vehicle that transports hazardous materials:

1. Current RSPA registration (D.O.T Pipeline)
2. Current vehicle registration
3. Current Certificate of Insurance
4. Pre-trip/Post-trip inspections-past 90 days and current w/blanks
5. Trip Manifest (Shipping Paper) and Routing Instruction Sheet
6. Valid Commercial Drivers License with Hazardous Materials Endorsement
7. Valid DOT approved physical examination card (Health Card)
8. Federal Motor Carrier Safety Regs. Pocketbook (green & white)
9. Emergency Response Guidebook (yellow/gold) (2009)
10. Emergency Instructions/Procedures sheet
11. Blank vehicle accident forms
12. Fire Extinguishers w/current annual inspection, fully charged
13. Emergency reflective triangles, complete set
14. Four proper placards (If applicable)
15. Signs/decals indicating proper company name, city, state and DOT number
16. Log book (for trips that exceed a 100 mile radius of normal operations)

WSDB is aware that the Washington State highway patrol will be stopping our vehicles often for routine checks on the highways; management does all within their power to ensure compliance with all state and federal regulations.

When one of WSDB's employees gets behind the wheel of a commercial motor vehicle, they understand that they are responsible for the legal and safe operation of that vehicle. If they are cited for failure of any of the above items, they are responsible pay all associated fines.

The cargo area must be swept clean and the load must be protected and braced against load shifting before they leave the storage or job site.

Drivers can avoid the possibility of citations by following company safety rules. It is crucial that they complete all shipping forms, logs and pre/post-trip inspection forms correctly and that they turn them into the office. Questions regarding these safety regulations should be directed to the Safety Director.

STORAGE OF EXPLOSIVES AND BLASTING AGENTS

1. Explosives and related materials shall be stored in approved facilities required under the applicable provisions of the Bureau of Alcohol, Tobacco and Firearms regulations contained in 27 CFR Part 555.

2. Blasting caps, electric blasting caps, detonating primers, and primed cartridges shall not be stored in the same magazine with other explosives or blasting agents as stipulated in W.A.C. 296-52-69005.

3. Smoking and open flames shall not be permitted within 50 feet of explosives and detonator storage magazine as stipulated in part 3 of W.A.C. 296-52-69050.

EXPLOSIVES STORAGE-SITE MANAGEMENT AND PROCEDURE

Failure to comply with these requirements will result in appropriate discipline.

1. No unauthorized person is allowed in or around the magazine site.

2. All gates and magazines are to be locked upon leaving the site.

3. The area surrounding the magazines and storage trailers are to be kept clean. All flammable debris, including wood, foliage and trash must be removed from around the site.

4. Any spilled product must be cleaned up immediately. Product must never be left on the ground.

5. Any product spilled in the ANFO trailer must be cleaned up immediately.

6. Magazine inventory sheets must be filled out every time product is put in or taken out of the magazine. The individual making the last entry "is responsible for insuring that it reflects what is truly on hand. Inventory sheets must be immediately turned into the office when they are full of entries.

7. All empty explosives cases returned to the magazine site must be broken down and placed in the trash trailer. This material shall be stacked as close to the nose of the trailer as is possible in order to avoid re-stacking several times.

8. When a load of explosives is received at the magazine site, the individual who meets the load shall remain at the magazine site until the entire load is properly stored and inventoried.

BLAST REPORT PREPARATION AND REVIEW

PURPOSE

Provide accurate and timely blast records

DISCUSSION

Blast reports are essential legal records which must be prepared and retained for each blast conducted by a licensed blaster. In order for these records to be meaningful and accurate they must be prepared in a timely manner, be complete with all information necessary to accurately document materials used, blast design, location, date and time of blast and blast performance to include noise, vibration, fragmentation, movement and any notable occurrences associated with the blast.

BLAST REPORT PREPARATION

The following actions must be completed by the blaster in charge for each blast executed on behalf of Sanders Construction Company or Western States Drilling and Blasting.

1. Prior to blasting, obtain a blast report number from the company office via telephone to 702-558-4900. Record the blast number in the space provided on the blank form.

2. Obtain job number and ticket number from job superintendent and record appropriately.

3. Record blast location using GPS coordinates for each corner of blast.

4. Record a customer name and address.

5. Record seismograph locations and post blast reading.

6. Record all explosives and materials used including date codes and quantity.

7. Provide an accurate and complete shot diagram, including hole diameter, hole depth, burden, spacing, stemming length, stemming description, explosive column length, decks (if used) booster, cap description and firing sequence showing point of initiation and time between holes and rows. Note on diagram blocked holes, shallow holes, any unusual situations such as absence of drill cuttings, fractured surface, wet hole, different material or any observation which might be useful in explaining an unexpected result.

8. Record the names of all personnel participating in activities.

9. Sign the blast report, realizing that you are signing a legally binding document that has the potential of either protecting you and the company or causing serious damage in a court of law to both.

a. Completely review the blast report and verify that each provided spaced is completed or marked N/A as appropriate.

b. Provide completed blast report, daily, to the receptionist at WSDB company office not later than 24 hours following blast time. Blast reports can be submitted via email, fax or hand delivered.

c. Complete blasters checklist (See Appendix B) and have job manager initial checklist.

OPERATOR MAINTENANCE

1. Visually inspects equipment and reports faults and makes equipment available for routine operational servicing

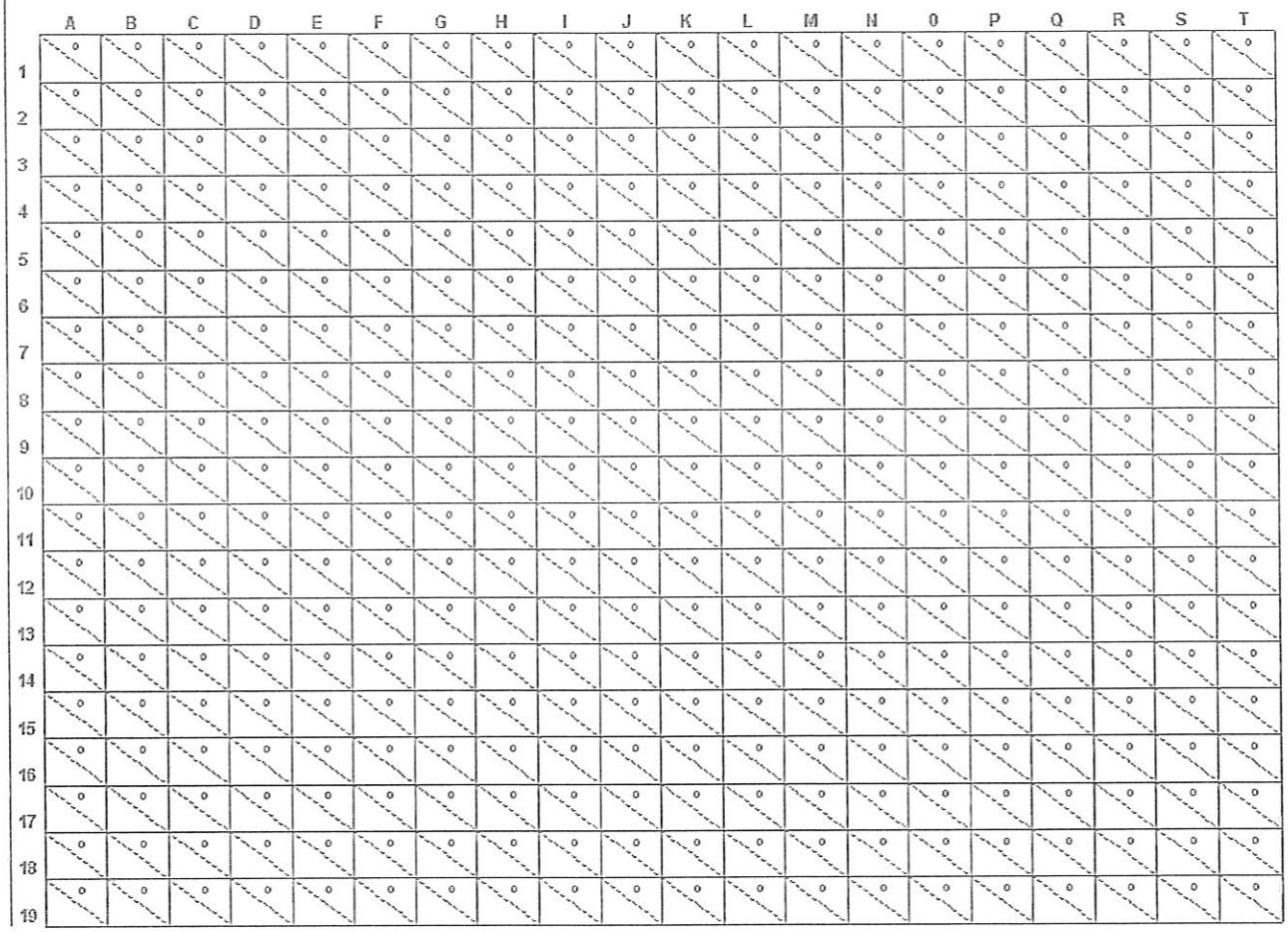
2. Makes minor adjustments to equipment

3. Cleans equipment to maintain condition of equipment and ensure safe and efficient operations.

4. Completes all required documentation clearly, concisely and on time

Appendix A – Drill Log

Shot#_____ Job #_____ Bit Size____ Pattern _____ Date_____ Name_____



Check List

Date:_____

Job Number:_____

Shot Number:_____

1. BEFORE BLASTING

NOTIFICATION
- ☐ Fire Department
- ☐ Utilities
- ☐ Businesses & Home Owners
- ☐ Seismograph Tech
- Other (List)

_____

_____

MATERIAL & EQUIPMENT
- ☐ Adequate Stemming Material
- ☐ Warning Signs
- ☐ Warning Signals
- ☐ Safe Amount of Lead Line
- ☐ Seismograph Paper, Pens, etc.
- ☐ Fire Extinguishers (charged)
- ☐ Adequate Blasting Shelter
- ☐ Mats (If Applicable)

SHOT DESIGN
- ☐ Pattern OK for Area
- ☐ Sufficient Burden to Face
- ☐ Reviewed drill logs
- ☐ Measured Depth, Burden & & Spacing
- ☐ Shot Area Posted & Secure
- ☐ Shot Diagramed on Back

2. DURING LOADING

CONSTANT CHECKS
- ☐ Explosives
- ☐ Running Inventory
- ☐ Access Row Empty
- ☐ Drills & Traffic 50' Away
- ☐ Shot can be fired in case of emergency

All Holes to be checked & approved
- ☐ Blaster initial
- ☐ Supt initial

3. DETONATION

HOOK - UP
- ☐ All Unnecessary Crew Cleared
- ☐ All Holes Loaded & Stemmed
- ☐ Hand Check tubing Before Each Connection
- ☐ Visually Insured That Each Connection is Snapped

SECURE AREA
- ☐ Set up Seismograph
- ☐ Est. Checkpoints at Each Access
- ☐ Radio Communication with Checkpoints.
- ☐ Cleared People, Vehicles & Equipment
- ☐ Visual Coverage of Entire Site
- ☐ Five Minute Warning
- ☐ One Minute Warning

4. AFTER DETONATION

POST BLAST CHECK
- ☐ Waited for Dust & Fumes to Dissipate
- ☐ Walked Entire Area of Shot
- ☐ Insured that tail Surface Delays Fired at the End of Each Row
- ☐ Sounded All Clear Signal

LEGAL DOCUMENTATION
- ☐ Completed Shot Report
- ☐ Diagramed Shot w/ Seismograph Location (Direction & Distance)
- ☐ Recorded Seismic Results on Blast Report
- ☐ Final Inventory of Explosives Recorded Ticket Number Assigned By Job Supervisor
- ☐ Signed Blast Report w/ License No. Job Supervisor

Supt has checked and verified that all been complete and shot area is ready for loading.

_____ Supt initial

BLAST REPORT

BLAST REPORT # _____

☐ Sanders Construction, Inc.

☐ Western States Drilling & Blasting, Inc.

DATE: _____ EXACT TIME OF SHOT: _____

CUSTOMER: _____ JOB NO.: _____

SHOT LOCATION WITH GPS COORDINATES: _____ TICKET NO.: _____

_____ CHECK LIST COMPLETED: YES NO

TYPE OF ROCK: _____ FACE HEIGHT: _____ FT. POUNDS PER DELAY: _____

TOTAL HOLES: _____

NUMBER OF HOLES: _____ HOLE DIA: _____ BxS _____ x _____ STEMMING _____ DEPTH: _____

NUMBER OF HOLES: _____ HOLE DIA: _____ BxS _____ x _____ STEMMING: _____ DEPTH: _____

POWDER FACTOR: _____ LBS. OF EXPLOSIVES: _____ YARDS OF ROCK: _____

WEATHER: _____ WIND: _____

EXACT MONITOR LOCATION(GPS): _____ DIRECTION OF BLAST: _____ MONITOR TYPE: _____

MONITOR: L/R _____T _____V _____PVS _____ Db _____ MONITOR SERIAL NO.: _____

DISTANCE TO BLAST: _____ AVERAGE POUNDS PER HOLE: _____ OPERATOR: _____

EXACT MONITOR LOCATION(GPS): _____ DIRECTION OF BLAST: _____ MONITOR TYPE: _____

MONITOR: L/R _____T _____V _____PVS _____ Db _____ MONITOR SERIAL NO.: _____

DISTANCE TO BLAST: _____ AVERAGE POUNDS PER HOLE: _____ OPERATOR: _____

EXPLOSIVES

DESCRIPTION / LOCATION	QUANTITY USED	DATE CODE	MAGAZINE	REMOVED	RETURNED
BULK A/N	Lbs				
BAG ANFO	Bags				
POWDER	ea.				
POWDER	oz.				
lb. BOOSTER	ea.				
lb. BOOSTER	ea.				
ft.	ea.				
ft.	ea.				
ft.	ea.				
ft.	ea.				
ft.	ea.				
ft.	ea.				
ft. ms	ea.				
	ft.				
GRAIN CORD	ft.				
GRAIN CORD	ft.				
MISCELLANEOUS					

COMMENTS: _____

_____

_____

BLASTER'S SIGNATURE: _____ LICENSE NO.: _____

ATTACH SKETCH OF SHOT

Revised 5/2014

THIS FORM MUST BE FILLED OUT COMPLETELY